

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

July 10, 2003

Office of the Vice President
for Business and Finance
1350 Beardshear Hall
Ames, Iowa 50011-2038
515 294-6162
FAX 515 294-1621

OSWER Docket
EPA Docket Center
Mail code: 5305T
1200 Pennsylvania Ave., NW.
Washington, DC 20460-0002

RE: DOCKET ID NO. RCRA-2003-0012

Dear Sirs:

Iowa State University (ISU) submits the following comments in response to your request published June 3, 2003 in the Federal Register. As a Large Quantity Generator (LQG) of hazardous waste with over 1,000 laboratories, ISU has had much experience with hazardous waste management in an academic setting. We commend the Environmental Protection Agency (EPA) for acknowledging the need for regulatory reform and we provide these comments because we believe they will enhance compliance, provide better protection for the environment and facilitate waste minimization. These comments are provided in the order in which they appear in the Federal Register.

1. When should the hazardous waste determination be made in a laboratory setting?

Waste determinations are best made when the waste enters the campus waste management system – mirroring the “manufacturing process unit exclusion” of 40 CFR 261.4(c). Current RCRA regulations are often interpreted to require a waste determination be made in the lab or studio of initial use - resulting in increased disposal costs and eliminating the opportunities for waste minimization. A better approach is to allow wastes from labs and art studios to be collected and relocated in an accumulation area removed from instructional areas. The hazardous waste determination should be made within 24 hours of the relocation of the waste to this accumulation area. By delaying the determination until the waste is removed from the laboratory or art studio, the process can be performed by individuals specially trained to do so. In addition, these trained individuals can often identify other uses for some of the materials resulting in waste reduction. This timing also provides an opportunity for small-scale treatment.

2. What training is needed for lab personnel concerning hazardous waste determinations (e.g. full RCRA training or training that is made specific to the chemical management duties)?

Considering the diversity of chemical wastes found in academia, we recommend that the training requirements of lab and art studio personnel be limited to that appropriate to their chemical management duties. Full RCRA training, including waste code determination and manifest preparation is inappropriate for laboratory and art studio personnel.

07-16-03A10:52 RCVD

3. *How should waste be labeled so it can be appropriately managed as hazardous waste (e.g., the words "hazardous waste" or a detailed chemical description)?*

We recommend that containers be labeled with the term "Hazardous Waste" and a chemical identifier appropriate for the chemical. In many basic academic laboratories, the "chemical identifier" may be rather simplistic; the word "Waste" followed by the chemical name would suffice. More advanced academic research laboratories may require more detailed chemical descriptions. In the spirit of performance based regulation, each campus should be allowed to determine what chemical identifier(s) would be most appropriate for their specific waste streams.

It is important that this requirement be applied in a sensible manner. One of the waste reduction methods implemented in academic laboratories involves microscale chemical experiments. This can result in extremely small quantities of waste. When wastes are contained in extremely small vials or other very small containers, it is appropriate for the labels to be placed on a larger secondary container used to collect many small vials rather than requiring the labeling of each individual vial.

4. *Where should the hazardous waste determination be made (e.g., on the bench or in the 90 to 180-day storage area)?*

As noted in response to Question #1, the hazardous waste determination for laboratories and art studios in an academic setting is best performed when the waste enters the campus waste management system. This is best completed in the facility's central waste collection and management area by properly trained personnel.

It must be noted that this process is not necessarily best suited for a RCRA 90 or 180-day storage area as suggested in this question. The academic calendar is typically based upon semesters that are usually 100 to 115 days in length. The 90-day storage limit stipulated in the RCRA regulation therefore forces LQG schools to manage waste in a manner that is out of synch with chemical wastes generation. This results in inefficient waste management, increased costs, and lost waste minimization opportunities. It would be extremely beneficial to synchronize hazardous waste management with the academic calendar.

5. *How should the Satellite Accumulation Area (SAA) accumulation time (volume exceeding 55 gallons of hazardous waste or 1 quart of acute hazardous waste must be removed within 3 days) be applied in a laboratory context?*

Academic laboratories and art studios are often congested with projects and equipment. These areas, that often have a large number of students, are not appropriate locations for the storage of hazardous waste. A more liberal interpretation of "at or near the point of generation" would facilitate the prompt removal of waste from student-occupied spaces, reduce the risk of exposure and spills/releases, and result in much more efficient use of limited space.

6. *How often do laboratories accumulate more than 55 gallons of waste in their SAA?*

The three-day limit in the academic sector is more likely to be triggered by the generation of more than 1 quart of acute hazardous waste than by 55 gallons of other-than-acute-hazardous waste. A trigger volume of hazardous waste is most often generated at the end of the academic year, corresponding to faculty retirements and lab clean outs.

7. *What, if any, difficulties do environmental health and safety personnel have responding to waste pick-up calls, e.g., within the three-day time limit?*

ISU has Environmental Health and Safety staff dedicated to the collection and management of hazardous waste. In most cases, waste quantities that trigger the three-day time limit do not exist. On the occasion when the limit is applicable, it causes disruption of service to other campus entities because staff must drop the task at hand to pick up the subject material. This causes much inefficiency, such as visiting the same building twice in one week. End of semester activities, when the majority of labs are cleaning out satellite accumulation areas, also make the three-day limit a challenge.

8. *How would a longer time frame for removal impact the cost of waste management and the ability to protect human health and the environment?*

Synchronizing the waste management calendar with the academic calendar would provide academic institutions the most financial relief from regulation. Many small schools pay more for shipping than they do for actual waste disposal. Longer accumulation times would allow schools to consolidate waste for more economical waste disposal.

9. *What types of treatment, other than neutralization, are laboratory personnel currently performing or would like to perform?*

Currently, ISU does not allow any treatment of hazardous waste in the laboratory. This was an administrative decision based on liability (penalties for noncompliance) that far exceeds any economic benefit provided by in-house treatment. ISU has even decided to close its permitted treatment facility for the same reason. Academic laboratories generate an innumerable variety of wastes. Researchers, principal investigators, and their support staff are in the unique position of being intimately familiar with chemical processes that could reduce the volume, toxicity and reactivity of their typically small volume of wastes. Unfortunately, the current regulatory environment provides little incentive to treat these wastes.

Rather than focusing on "what can be treated?" more attention should be given to "how much waste can be safely treated?" Most bench top uses of chemicals produce less than 30 grams of chemical waste per experiment. Quantities this small, of even the most toxic or reactive substances, can be safely managed in the laboratory; however, regulations with far less complexity would be necessary before ISU would allow faculty and staff to treat hazardous waste.

10. What would be the benefits of the desired types of treatment?

Allowing bench top scale treatment of the small amounts of hazardous waste generated in laboratories and art studios would facilitate treatment by the individuals most qualified to render the waste non-hazardous. The benefits include reduced disposal costs, reductions in waste volume, toxicity and reactivity and a learning opportunity for researchers working with hazardous chemicals. It would not be difficult to imagine an environment where researchers identify best management practices simultaneous to the synthesis of new chemical compounds.

11. Other issues that affect hazardous waste management?

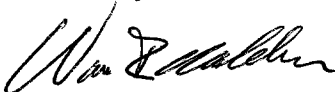
There are two additional issues that ISU believes are related to the questions asked by the EPA: remote facilities and the definition of laboratories.

Many large institutions, such as ISU, operate many small remote research units. Under current regulations, they would be considered Conditionally Exempt Small Quantity Generators (CESQG) of hazardous waste, but they are often closely tied to activities on the main campus. Rather than manage the waste at these facilities independently with excessively high costs, it would be advantageous to move the waste to exploit the economy of scale. In addition to cost savings, such a measure would enhance protection of the environment because the waste would be managed as part of a LQG rather than a CESQG.

The definition of a laboratory is another aspect that creates a compliance challenge for institutions. There is much more to laboratories than bench tops and glassware. A laboratory can look like a metal shop, an art studio or even a cornfield. If the EPA pursues regulatory changes for academic laboratories, it is important to note that the regulated community is likely looking at a larger universe of facilities.

Thank you for the opportunity to provide comments on this issue. If you have questions about any of these comments, do not hesitate to contact David Inyang, Director, Environmental Health and Safety, at (515) 294-7676.

Sincerely,



Warren R. Madden
Vice President for Business and Finance

cc: James R. Bloedel, Vice Provost for Research and Advanced Studies
Paul N. Tanaka, University Counsel